INCEPTION OF THE ZMUX SYSTEM

Table of Contents

1.0 Introduction

Zanzibar Multiplex Company (ZMUX) is a government-owned company established under the company decree (CAP 15) in October 2012, and it is operated under the Ministry of Information, Youth, Culture, and Sports. The company is responsible for offering media content through multiplexing technology to the public in Zanzibar at an affordable price and high quality. The production service provided by the company places focuses on how the customer can be satisfied and increase brand awareness, service quality, coverage, scope, and views.

Although the company is currently operating and providing media services to customers, the company faces many infrastructural challenges due to the depreciation of the equipment, infrastructure (headend), and software systems, including the existing billing system. In such a way, the company should take immediate actions to address those challenges; otherwise, they might negatively impact the operations of the company and may lead to financial losses as well as the customer base. The challenges include

i. Missing contract and Service Level Agreement (SLA) for most of the existing installed equipment and billing system
ii. Missing user manuals (technical and or tutorial for the end user) for operating equipment and billing system.,
iii. The existing billing system cannot automatically update the CAS server when the client renews the airtime

subscription.

iv. Integrating the existing billing system/ SMS Pay TV with the government e-payment gateway is impossible as there is no API.

1.1 Document Objectives

This document aims to spell out the inception requirements of the ZMUX System, which will cover all business activities of ZMUX. The document will be regarded as a basis of understanding between parties regarding what is required to write system Requirement specifications.

1.2 ZMUX System Objectives.

The main objective of the current project is to establish a web-based integrated information system that will automate ZMUX operations.

1.3 ZMUX System Scope.

The scope of this system covers but is not limited to the following:

- Design an upgraded solution that can solve identified gaps and meet current ZMUX requirements
- Develop a ZMUX system or Customize a system about the requirement.
- Train and Capacity Building to ZCSRA Technical team and End Users
- Deploy the fully functional ZMX System.
- Integrate with stakeholders and 3rd parties
- Create an Integration Point for all systems.
- System Documentations handover.

2.0 Existing System Analysis

Currently, on the software side of ZMUX infrastructure, there needs to be an effective ICT-based integrated information system that can address the challenges associated with the current system, which is too manual. For example, stock control, customer relationship management, and tax payment are performed manually. Also, even though payment and airtime billing is performed electronically by an electronic billing system, the system does not offer alternative packages for different purchasing power. Moreover, the existing billing system reports an error. It cannot automatically update the CAS server during a renewal of a service subscription, which means a user does it manually, which is more time-consuming and staff demanded. Additionally, the existing billing has no API which allows integration with the government payment system (ZANMALIPO).

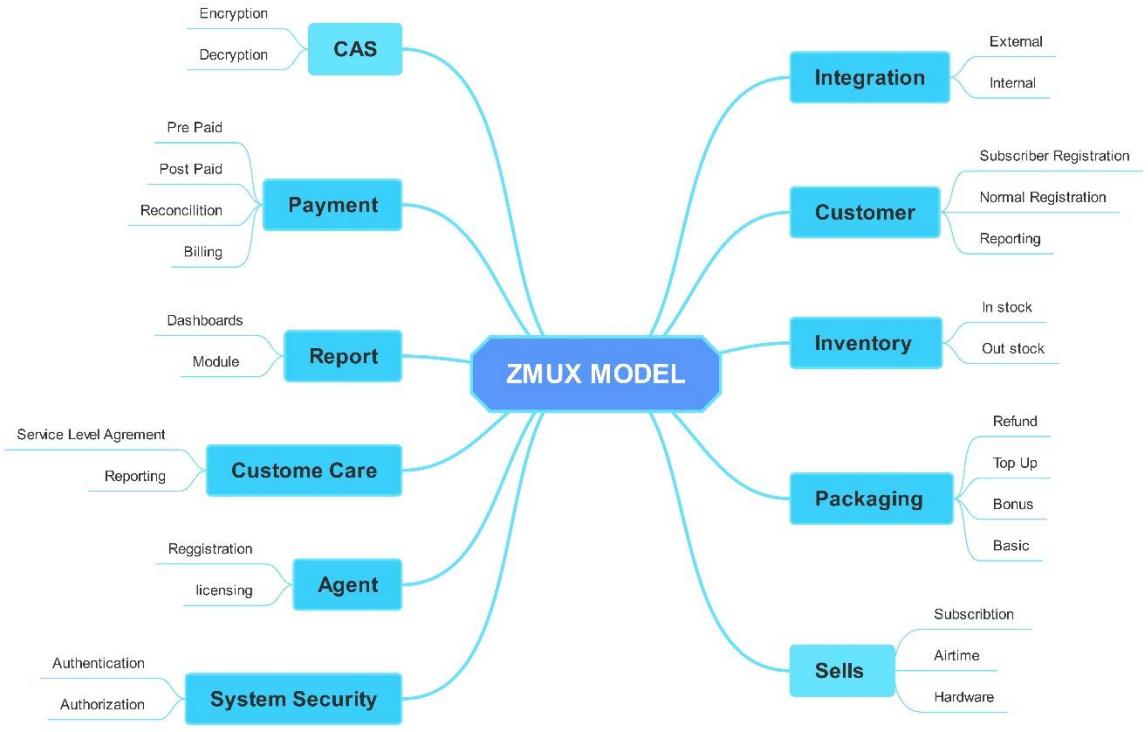
4.0 ZMUX Model and Use Case.

The upgraded ZMUX model will follow the current ZMUX model with some optimization. Optimization of the model will predominantly be brought by adaptation of technology and system; in this sense, some of the manual processes will disappear or be automated. Mind–map diagrams will be used to present the ZMUX model.

The use case flow represents the number of actors involved and granular tasks performed to accomplish a model deliverable. ZMUX use cases are established from the model. The UML case diagram in this section presents this.

4.1 ZMUX Model.

The ZMUX has eleven module components. Customer, Integration, Inventory, Packaging, Sells, Payment, Agent, Customer care, System Security, Report, and Conditional Access System (CAS). The mind map diagram below illustrates eleven model components of the ZMUX system, followed by an explanation of each module.



Payment: This module component deals with all tasks involving Payment in ZMUX. These include pre-paid and post-paid, billing, integration with Payment stakeholders, and the ability to reconcile with payment partners.

Report: This module component deals with all information in ZMUX. These include dashboards for management and all detailed module reports. Any other customized essay will be handled in this module.

CAS: This module component deals with all encryption and decryption in ZMUX televisions.

Customer Care: This module component deals with all.

Agent: This module component deals with the whole sell affair. The agent is our external company sells person, and this module manages all agent activity.

System Security: This module component deals with authentication and authorization in using the system. It will be role base permission authorization.

Integration: This module component deals with authentication and authorization in using the system. It will be role base permission authorization.

Customer: This module component deals with customer management. We have two types of customers the Subscriber and the typical customer. The regular customer is the customer that only buys hardware, but the subscriber is the customer that purchases the hardware and will buy the airtime for us.

Inventory: This module component deals with storage. To manage derivable. The stock that comes in and comes out.

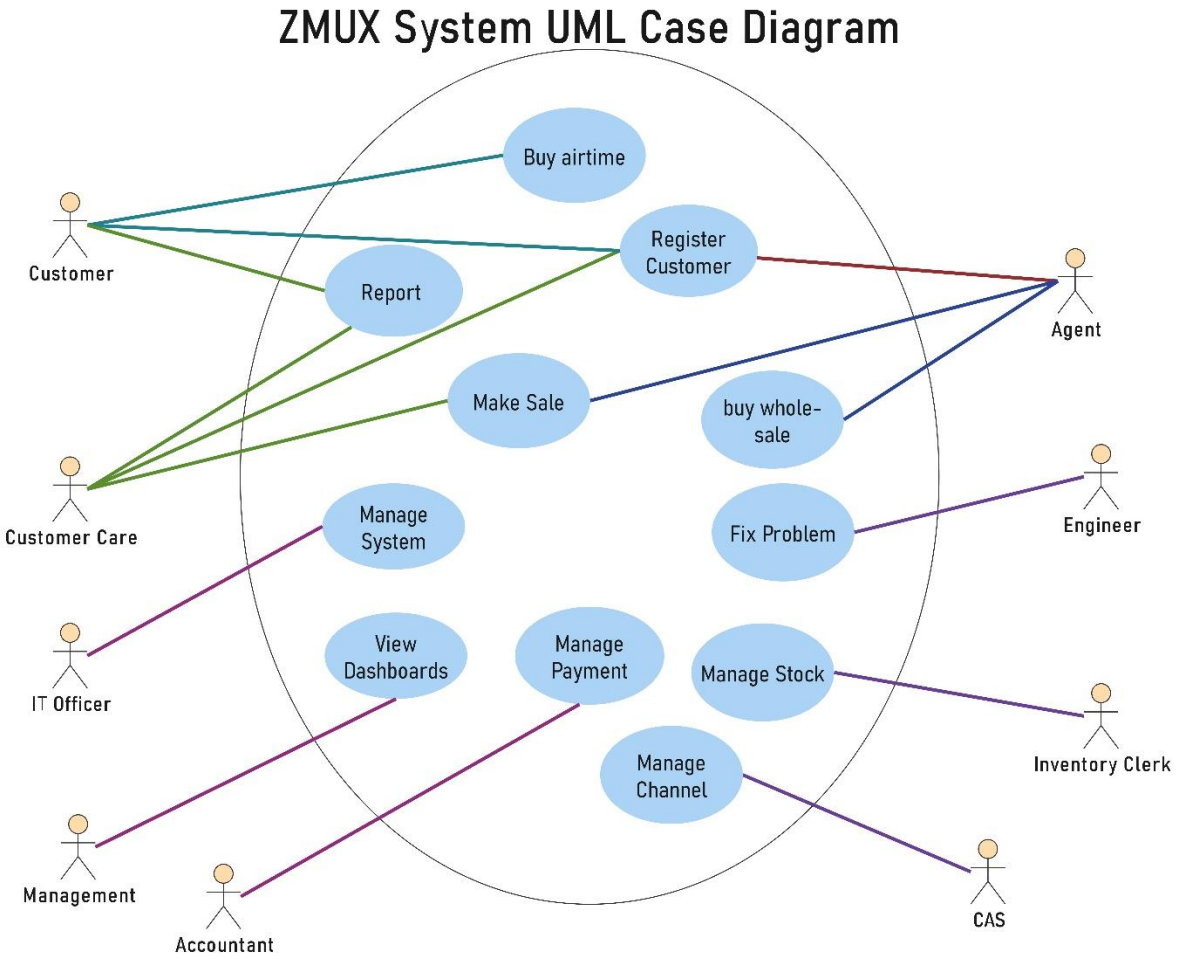
Packaging: This module component deals with the business packages. From the basic to the top-up algorithm and bonus algorithm, all of it is managed in this module.

Packaging: This module component deals with the business packages. From the basic to the top-up algorithm and bonus algorithm, all of it is managed in this module.

Sells: This module component deals with sales. The customer and agent can buy airtime, hardware, and subscription.

3.2 ZMUX UML case diagram.

The ZMUX system has nine actors, Customer, Customer care, Accountant, Agent, Engineer, Inventory clerk, Management, IT Officer, and Conditional Access System (CAS). The UML case diagram will show the actor and activity to operate ZMUX, followed by an explanation of the action.



Buy Airtime: The subscribed customer will buy airtime using our system or MNO, and our system will detect the sales processing in CAS to manage channels.

Register Customer: Customer Care, the Agent can register a customer to do business with ZMUX. Also, customers can register themselves in a ZMUX web system.

Report: Customer and Customer care can report the problem or comment in the system. The reporting message must follow Service Level Agreement (SLA).

Make Sale: Customer Care and the Agent can sell to the customer. Customer care only can make a wholesale to the agent.

Fix Problem: After the Customer or Customer Care report a problem engineer solves it and puts a comment in our system.

Manage system: The IT Officer will register staff grants, revoke the roles, and manage the system's look-up.

Manage Payment: The accountant will manage all payment reports and reconciliation. We will have integration with many stakeholders, so this job to see that it reconciles is solely to the accountant.

Manage Stock: The inventory clerk will manage all of the derivable.

Manage channel: The CAS will manage the encryption and decryption of the system.

View Dashboards: Management will need the summary reports for decision-making.